

## **AMENDMENTS TO THE CLAIMS:**

The listing of claims will replace all prior versions, and listings of claims in the application:

### **LISTING OF THE CLAIMS**

1. (Currently Amended) A method for strengthening the structure of a protein- containing food product during a pasteurization heat treatment of said product by forming disulfide bonds between ~~the proteins~~modified protein and protein in the protein-containing food product to form a protein space network, the method comprising:

modifying an unmodified protein by cleaving at least one disulfide bond originally present in the unmodified protein to obtain modified protein having free sulfhydryl groups;

adding the modified protein to said~~the protein-containing food product to form a mixture; before said heat treatment, which protein is modified by cleaving at least one disulfide bond originally present in said protein to obtain free sulfhydryl groups, and~~

heating said product~~the mixture~~ for 15 minutes or less to cause an interchange reaction that forms~~by said free sulfhydryl groups to form said structure strengthening disulfide bridges between proteins~~the modified protein and protein in the protein-containing food product.

2. (Previously Presented) The method of claim 1, wherein said heating time is 15 seconds to 14 minutes.

3. (Previously Presented) The method of claim 1 wherein said heating temperature is 70-85 °C.

4. (Previously Presented) The method of claim 1 wherein said modified protein is produced by contacting an unmodified protein with a sulfite ion forming reagent to sulfonate said protein.

5. (Currently Amended) The method of claim 1 wherein the amount of free sulfhydryl groups in the total protein of the product before the interchange modification reaction is 0.5-60  $\mu\text{mol/g}$  protein.

6. (Previously Presented) The method of claim 1 wherein said modified protein comprises whey protein or soy protein.

7. (Previously Presented) The method of claim 1 wherein said food product is yoghurt, pudding, spread, other milk product, dough, animal fodder or pet food.

8. (Currently Amended) A method for preparing a protein-containing food product having ~~protective functional properties~~free sulfhydryl groups, the method comprising:

adding modified protein to said product to form a mixture, which protein is modified by cleaving at least one disulfide bond originally present in said protein to obtain free sulfhydryl groups, and

heating said product mixture for 15 minutes or less to cause an interchange reaction by said free sulfhydryl groups to further cleave other disulfide bridges between the modified protein~~proteins~~ and protein in the protein-containing food product to obtain free sulfhydryl groups~~providing said functional properties~~.

9. (Previously Presented) The method of claim 8, wherein said heating time is 15 seconds to 14 minutes.

10. (Previously Presented) The method of claim 8 wherein said heating temperature is 70-85 °C.

11. (Previously Presented) A protein-containing food product comprising a protein space network strengthening the structure of said product, which network is formed by adding a modified protein to the protein-containing food product and heating

for 15 minutes or less; wherein the modified protein is a whey protein or soy protein and has been modified by cleaving at least one disulfide bond originally present in the protein.

12. (Previously Presented) The protein-containing product of claim 11, wherein said heating time is 15 seconds to 14 minutes.

13. (Previously Presented) The protein-containing product of claim 11 wherein said heating temperature is 70-85 °C.

14. (Currently Amended) The protein-containing product of claim 11 wherein said modified protein is produced by contacting an unmodified protein with a sulfite ion forming reagent to sulfonate said unmodified protein.

15. (Currently Amended) The protein-containing product of claim 11 wherein the amount of free sulfhydryl groups in the ~~total protein of the product~~ mixture before the interchange modification reaction is 0.5-60[[,]] μmol/g protein.

16. (Cancelled).

17. (Previously Presented) The protein-containing product of claim 11 wherein said food product is yoghurt, pudding, spread, other milk product, dough, animal fodder or pet food.

18. (Currently Amended) A protein-containing food product ~~having protective functional properties~~, wherein said product comprises free sulfhydryl groups created by:  
adding modified protein to the protein-containing food product to form a mixture, the modified protein being a whey protein or soy protein which has been modified by cleaving at least one disulfide bond originally present in said protein to obtain free sulfhydryl groups; and

heating the modified protein and protein-containing food product mixture to further cleave other disulfide bonds between proteins during a heating of for 15 minutes or less to further cleave other disulfide bonds in the mixture to obtain the protein-containing food product having protective functional properties.

19. (Previously Presented) The protein-containing product of claim 18 wherein said heating time is 15 seconds to 14 minutes.

20. (Previously Presented) The protein-containing product of claim 18 wherein said heating temperature is 70-85 °C.